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1 RECORD OF ORAL HEARING
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3 UNITED STATES PATENT AND TRADEMARK OFFICE
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5
6 BEFORE THE BOARD OF PATENT APPEALS
7 AND INTERFERENCES
8

9
10 Ex parte CHANG-SEOB KIM,
11 JU-HYUNG KIM,
12 MIN-HO SONG,
13 and JUNG-WON KANG
14

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16 Appeal 2009-003357
17 Application 10/748,197
18 Technology Center 1700
19

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21 Oral Hearing Held: June 25, 2009
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25 Before JEFFREY T. SMITH, MARK NAGUMO, and
26 MICHAEL P. COLAIANNI, Administrative Patent Judges
27

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29 ON BEHALF OF THE APPELLANT:
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1 The above-entitled matter came on for hearing on Thursday,
2 June 25, 2009, commencing at 2:37 p.m., at the U.S. Patent and Trademark
3 Office, 600 Dulany Street, Alexandria, Virginia, before Victoria L. Wilson,
4 Notary Public.

5 THE USHER: Calendar number 74. Mr. Gill.

6 JUDGE SMITH: Welcome, Mr. Gill. After you get yourself settled,
7 you have 20 minutes to present your arguments.

8 MR. GILL: Thank you, your Honors. I think I'm ready if you guys --

9 JUDGE SMITH: You can begin.

10 MR. GILL: Good afternoon, your Honors. My name is Matt Gill and
11 I'm representing Applicants in this appeal.

12 Specifically, we are appealing the Examiner's rejection of two
13 separate sets of claims, the first set over 35 USC 103 over the Sugita
14 reference and the second set over Sugita and Narukawa.

15 As far as a little bit of background is concerned, the present invention
16 is generally directed to electrode assembly or electrode unit where you have
17 two separate electrode plates that are wound together with a separator in
18 between, each of the electrode plates having an electrode tab. Our electrode
19 tab is formed by cutting one of the electrode plates, starting at the bottom
20 with the cut going more than halfway up and then folding that upwards.

21 With regards to Sugita, they have a similar construction but their
22 electrode tab is formed by cutting a central portion of the electrode
23 assembly, folding up the incised portion, as they call it, and that's how they
24 make their electrode tab. They also actually bend the electrode tab into a
25 little concavity inside the battery assembly but I'll address that a little bit
26 later.

1 So, like I said before, Sugita does not disclose, as is claimed, cutting
2 starting at the lower portion of the electrode assembly, going more than
3 halfway through the electrode plate, cutting more than half way along the
4 electrode plate and folding it up as is presently claimed in the rejected
5 claims.

6 So in order to support a finding of obviousness for the rejected claims
7 over Sugita, you basically have to make two leaps of faith -- first one, that
8 there was a motivation to modify Sugita, the second one that the differences
9 between Sugita and the rejected claims were obvious. Now --

10 JUDGE NAGUMO: Why wouldn't that have been the case? If we
11 look at figure 14 in Sugita, all it seems to require, really, is making that tab
12 long enough so that it intersects the bottom, I mean goes off the strip, and
13 fold the tab up and -- and there you are. You have met at least that part of
14 your claim. So why would that not have been an obvious modification of
15 this prior art discussion that Sugita gives us?

16 MR. GILL: Well, when you -- you actually bring that up. Sugita does
17 disclose numerous different ways of forming these electrode tabs and it says
18 they can be curved, they can be straight, trapezoidal, all sorts of different
19 types of shapes, and we -- presumably, this is going to be a fairly exhaustive
20 list.

21 There were no methods to form them at the time and they don't
22 disclose forming it in this way.

23 JUDGE NAGUMO: Well, if they did, it would be an anticipation.
24 The Examiner says it would have been obvious to modify this teaching to
25 reach your claimed subject matter, the client's claimed subject matter. And
26 what is the teaching that you would point us to in Sugita to say, actually, no,

1 that's not the case?

2 MR. GILL: Well, it is more or less the absence of a teaching to do it
3 the way we claimed versus the several different methods that they disclosed.

4 Then why it is not obvious? Because no one has done it. I mean there
5 are literally thousands of different ways to make these electrode tabs. You
6 can weld a piece of material on there, there are different ways to cut it, I --
7 actually, looking at these cases, it sort of reminds me of Origami; you can
8 fold a piece of paper a thousand different ways to make a bird but that didn't
9 mean that one particular way of folding it to make a bird is obvious over
10 another one.

11 Just because the results are the same, the actual methods in which
12 something is formed or the actual product that results from your method is
13 different.

14 JUDGE NAGUMO: But the difference here is the length of this tab
15 that the prior art is telling us to cut. And I mean there is a problem here
16 because it is a very simple invention and so we have to be careful, you
17 know, not to just impute it is simple and, therefore, obvious. I mean that's
18 not correct.

19 But there is a teaching in Sugita that says you can make the tab of
20 different sizes, different lengths. You make it as big as possible and all of a
21 sudden there are -- you come through the bottom of the strip here and we
22 have got an embodiment that is seemingly within the scope of your claim. It
23 is more than halfway sort of by construction because you have to fold it up.

24 MR. GILL: Right.

25 JUDGE NAGUMO: And so you meet that. And so it hasn't been
26 done, there are an awful lot of ways to do it, is that a sufficient finding to say

1 that it would not have been obvious to one of ordinary skill in the art?

2 MR. GILL: Well, at the same time, you know, we don't want to use --
3 I think it is very easy to look at what we have claimed here and say, oh, well,
4 you know, that is obvious in view of Sugita, sure, but if it was so obvious,
5 why hadn't anyone done it before?

6 I mean that's sort of where our opinion is. No one had made an
7 electrode tab this way, otherwise, you know, a piece of art would have
8 shown it, and if no one had done it that way, how can it be obvious? Why
9 would it be obvious if no one had ever done it that way?

10 There is evidence saying, hey, somebody else has done this, you are
11 just incorporating someone else's idea. Everyone else is either starting in the
12 middle, folded it up or welded a piece on there.

13 No one had started from the bottom and I mean it is actually a more
14 simple way to manufacture it, just to start at the bottom and cut -- fold it up,
15 versus having to incise in the central portion. It is also easier to align your
16 cutting device, you don't have to make three cuts, you can only make, in
17 some aspects, a single cut and fold it up and no one had done that before.

18 So if it was obvious, someone should have done it, it should be out
19 there somewhere, but since it is not there, then how can -- you know, how
20 can it be obvious? I think that's --

21 JUDGE COLAIANNI: As Judge Nagumo was pointing out, the
22 reference Sugita does disclose that the incision can be made longer. There is
23 a suggestion in there to make the tab whatever size you want it to be
24 depending upon the size of the battery.

25 MR. GILL: Right, but there is none that says it starts at the bottom
26 and goes more than halfway.

1 JUDGE COLAIANNI: Well, I mean wouldn't that be within the skill
2 of one of ordinary skill in the art to determine that based on the size of the
3 battery?

4 MR. GILL: I mean -- I'm not trying to argue that no one could have
5 done this based -- you are taking a look at Sugita and no one could make it
6 differently. I'm just saying it is different and it wasn't taught here and there
7 are numerable different ways in which to make an electrode tab but no one
8 had done it how -- as claimed.

9 I mean we -- even Sugita says there are ways -- different ways; you
10 can make it bigger, you can make it smaller, but no one -- nowhere does it
11 disclose starting at the bottom, going more than halfway up and then folding
12 it over. I mean it is --

13 JUDGE SMITH: Does Sugita disclose that you cannot go all the way
14 to the bottom, then fold it up?

15 MR. GILL: No, they don't disclose that you cannot do that.

16 JUDGE SMITH: So they don't place a limitation on how the tab is
17 formed except for the tab can be longer.

18 MR. GILL: Correct.

19 JUDGE SMITH: Do you have any unexpected results that are
20 achieved by this claim?

21 MR. GILL: The unexpected results would be you only need a -- you
22 only need to align your cutting device on a single plane, whereas Sugita, you
23 actually have to move -- actually, Sugita doesn't talk about how they actually
24 make their cut, they just say it is incised.

25 But, for example, it is common to use a laser cutting device or the like
26 and you would have to actually inscribe three different angles and it is easy

1 to become offset, whereas, if you only have a single cutting device on a
2 single plane, it is much easier to align and form your tab that way. So,
3 basically, it simplifies the manufacturing process.

4 JUDGE NAGUMO: Does that make the product necessarily
5 unobvious, the process of making –

6 MR. GILL: No.

7 JUDGE NAGUMO: This is an argument for some sort of unexpected
8 result. That's my point. Is –

9 MR. GILL: That was the question that he asked.

10 JUDGE NAGUMO: Right. So the -- that's okay. I'll ponder that
11 separately.

12 MR. GILL: Okay. So, I mean if we review the -- I guess the case
13 law, there is admittedly not many cases that are directly on point for
14 modifying a single reference but we do have cases on, you know, when it is
15 appropriate to combine references for an obviousness -- for obviousness
16 considerations.

17 Now, obviously, we have *KSR* where they talk about rejections on
18 obviousness grounds cannot be sustained by mere conclusory statements,
19 there must be some articulated reason under some rationale underpinning to
20 support a conclusion of obviousness.

21 *KSR* also cites to the *Zurko* case. It says it is never appropriate to rely
22 solely on common knowledge in the art without evidentiary support in the
23 record.

24 And I think that's one of the focuses of our arguments is there is no
25 evidentiary support in the record for starting at the bottom and going more
26 than halfway.

1 And, you know, whether or not Sugita says you can make it longer or
2 shorter, they never talk about starting at the bottom. All the figures talk
3 about starting someplace near the top or in the middle, making your cut
4 there. They -- they never mention starting from the bottom, making one or
5 two -- one single cut or two cuts. It just wasn't there, so -- it just -- it doesn't
6 teach it and it is sort of a jump to say, you know, looking at the Sugita
7 reference, that that would teach one of skill in the art to start a cut at the
8 bottom and go more than halfway because there is no evidence of that.

9 So I think one of the things we have to guard against is using our
10 hindsight bias to look at the present invention and compare that to Sugita
11 and say, well, they are almost exactly the same or they are very similar so
12 somebody should have known, when the facts are there is no evidence that
13 anyone ever thought of doing it this way.

14 So another obviousness consideration that was discussed in *KSR* is
15 whether there is a finite number of identified predictable solutions and a
16 person of the ordinary skill in the art would have, you know, reasonably
17 combined those defining or predictable solutions to arrive at an invention.

18 Here, as I said before, there are innumerable different ways to make
19 an electrode tab, innumerable different types of cuts you can make, but there
20 is no evidence of the particular cut that is used to -- that's claimed.

21 So one of the arguments presented by the Examiner was that one of
22 skill in the art would have the knowledge to shift the cuts made in Sugita
23 over to another portion of the electrode assembly, but Applicants here
24 consider that the Examiner is confusing the knowledge with the ability -- the
25 knowledge of where to make the cuts versus the ability to make the cuts
26 because, obviously, everyone has the ability to cut something but the fact

1 here is no one has -- there is no evidence that anyone did it this way in the
2 past. So making an obviousness conclusion based on something looks
3 similar or it is simple to manufacture, it doesn't -- it still doesn't get you over
4 the hurdle because no one has done it this way.

5 So I mean that provides strong evidence of the fact that it is not
6 obvious because no one -- no one ever did it that way.

7 All right. And as far as the second group of claims, talking about
8 claims 5, 6, 12, 21, 27 -- 22, 27 and 28, these claims are rejected over Sugita
9 in view of the Narukawa reference. The Narukawa reference was used to
10 teach adhesive tapes for preventing short circuits on electrode tabs and
11 Applicants don't dispute that that's what's taught there but what we would
12 like to point out is that Sugita doesn't teach the adhesive tapes and they
13 actually teach against using the adhesive tapes because they say it could
14 decrease the working efficiency and produce unexpected chemical reactions.

15 In addition, if you refer to, like, for example, figure 1A of Sugita or
16 figure 1C, if an adhesive tape was applied between opposing sides of the
17 electrode tab, as it is claimed, it would actually disrupt the function of this
18 electrode tab because the adhesive tape would prevent the tab from
19 extending out from its folded portion in the bent portion, 241, which would
20 destroy the functionality of the folded portion of the tab.

21 So not only does Sugita teach away from using electrode tapes, it
22 would actually destroy the functionality of the electrode assembly.

23 JUDGE COLAIANNI: Is that really a teaching away, counselor? I
24 believe your point or the portion you are pointing to in Sugita is column 4,
25 the bottom of column 4.

26 MR. GILL: Right. Correct.

1 JUDGE COLAIANNI: My reading of that portion is that they are
2 teaching away from using double-sided tape for the particular purpose of
3 holding together the -- the spirally wound portion or using it for insulating
4 tape on the bottom of the spirally wound battery.

5 MR. GILL: It definitely mentions the bottom but it doesn't really
6 matter where you put the tape, you still could experience these decrease in
7 working efficiency and unexpected chemical reactions due to the tape, even
8 if it is on the -- taped around the electrode tab itself because that's still within
9 the -- where the electrolyte is disposed and you could still have these
10 undesirable chemical reactions.

11 JUDGE COLAIANNI: How does that square with Sugita's column
12 11 disclosure at the top there in line 5?

13 They say, "An actual cell" -- this is regarding one of Sugita's
14 embodiments -- "has such components as an insulating tape on the bottom of
15 the spirally wound electrode body and an adhesive tape for effecting a
16 positive electrode current collector tab formed by folding on the external
17 surface of the spirally wound electrode body," but those aren't shown in the
18 drawings.

19 MR. GILL: Well, I mean in some aspects I guess you could say that it
20 does not teach away from using the electrode tab -- the electro tape on the
21 tabs but, like I said before, it also at the same time teaches that if you
22 actually applied the adhesive tape to, I guess, the electrode tab 24, it
23 wouldn't operate as it is designed to operate because it would be prevented
24 from expanding by the tape itself.

25 So, I guess, in summary, our arguments are while it may appear in
26 hindsight to be very similar to forming an electrode tab by cutting at the

1 bottom and going more than halfway up, there is no evidence that that was
2 ever done in the past, and without such evidence in the record, it would be
3 improper to make an obviousness -- it would be improper to conclude that it
4 is obvious because of the fact that it's never -- it had never been done in the
5 past to that point.

6 JUDGE SMITH: Thank you. Any questions, Judge Nagumo?

7 JUDGE NAGUMO: No.

8 JUDGE SMITH: Judge Colaianni?

9 JUDGE COLAIANNI: No further questions.

10 JUDGE SMITH: Thank you for coming in today and your case has
11 been submitted.

12 Whereupon, the proceedings at 2:57 p.m. were concluded.